NOTE III.

THE ANTELOPES IN THE LEYDEN MUSEUM

reviewed by

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(With a figure).

The larger in size the animals are the more difficult their comparative study is; 1° as there hardly is any possibility to find all materials together in a given collection, 2° because no Museum in the world is large enough to possess sufficient large series of all known species of a given group, and 3° because large animals are very difficult to handle: they cannot be laid in series like small animals, they cannot be turned easily, their flat skins often are too strong and too obstinate, often dangerous to handle if they are hoofed; in one word there are lots of difficulties to overcome unknown by the students of smaller animals; moreover one has to travel and visit distant collections, very expensive and keeping much time. Add to all these obstacles that there is required a particular sharp memory for forms and colors — and it will be evident why the study of the larger animals hitherto so greatly has been neglected and why the number of Monographs on large animals is so small and the number of good Monographs still much smaller.

Therefore the scientific world may be thankful to the authors of »the Book of Antelopes", Dr. Sclater and Mr. Oldfield Thomas, that they endeavored to undertake such

an extremely difficult although highly attractive task, which they fulfilled so completely and so energetically. »Errare humanum" there are inaccuracies in the Book; »tot capita tot mentes" every author has his own opinions — the Scomber-scomber-theory f. i.! However as a whole I think this is the best and most complete Monograph of large Mammals ever published.

As the Leyden Museum is extremely rich in Antelopes from Africa — the fatherland per excellence of Antelopes — I from time to time compared our collection with the descriptions in the Antelope-work and when I publish hereafter some of my observations, I do this in order to the aid of working naturalists and at the same time to fix the attention of the scientific world upon the unsurpassed collection of Antelopes stored up in the Leyden Museum.

It contains a much larger number of extinct Antelopes than any other Museum and generally the specimens are in a splendid condition of conservation, meanwhile the mounted specimens are with a few exceptions really highly artistically traded. The great value of our collection bases in the facts that nearly all Antelopes have been collected in the field and that we have in addition an incomparably large series of skeletons and skulls of the same animals.

Bubalis major (Blyth).

Bubalis buselaphus and *B. major* cannot be confounded with the other species of the genus *Bubalis* as they are distinctly characterized by the horns diverging when viewed in front in the form of the letter U. *Bubalis major* is a much larger animal than *buselaphus*, much larger in all its dimensions, it has moreover *black markings in front of all four feet above the hoofs*, meanwhile *buselaphus* shows no trace of such dark markings. The type-specimen »a skin without horns or hoofs", perhaps the very same skin »without horns or hoofs" formerly mentioned by Gray in P. Z. S. L. 1850, p. 139, var. I, and at that time in the British Museum, has vanished; the authors of the Book

of Antelopes state that this skin is no longer to be found there.

The only specimen recorded is a mounted one in the Senckenbergian Museum at Frankfort a/M., which according to Dr. Sclater is probably of this species: it is »nearly uniform brown; forehead ferruginous; black round the feet". (Cf. Book of Antelopes, vol. I, p. 14).

At the days that I worked out my »Catalogue des Mammifères" I had no other specimens for comparison, so I exhibited an adult male specimen belonging to the *Bubalis*-genus as *Alcelaphus bubalis* (Pallas). But after a study of the Antelope-book of Sclater and Thomas I see that I was wrong and that the Leyden Museum possesses a nearly unique specimen of the true *Bubalis major!*

Color: as our adult male specimen belongs apparently to the eldest animals of our collection (in 1853 Temminck mentioned it in his Esquisses zoologiques, p. 195) it is much faded, having been exposed for more than half a century to the day-light, the following mode of coloration however clearly is to be seen. The pale brown color of upperparts presents a peculiar fine grizzled hue, resulting from the short hairs having yellowish white tips: a white band between the eyes, much feebler than in the Cape Hartebeest (*Bubalis caama*), upperparts of head more rufous brown, chin and all four legs blackish brown from beneath the knees downwards; on the forehead up to the horns the hairs are longer and more vividly colored; upperlips of a brownish red color; terminal part of tail black.

Head: length from between the horns to upperlip following the curve 55.5 cm.; eye to anterior margin of nostrils 33 cm., ear-opening 18 cm.; length of horns, measured round the curves 51.5 cm. (35 cm. in *buselaphus*); hoofs apparently more strongly developed than in the other *Bubalis*-species.

The history of the origin of our specimen is unknown, on the label is given »Afrique septentrionale" as locality.

Bubalis caama (Cuvier).

As this beautiful animal is at present practically *extinct* in the Cape Colony, it may bear great interest to remember that in the Leyden Museum there are a stuffed adult male from Verreaux' collections made in the named colony, an adult female collected there by Dr. von Horstock in 1829 and a semi-adult male collected in Swellendam by the same Dr. v. Horstock in 1833.

Damaliscus pygargus (Pallas).

This species is *quite extinct* in a feral state, only preserved on two farms »Nachtwacht" and »Zee-Koe-Vley", in the south-western part of the Cape Colony. In the Leyden Museum there are preserved more specimens of the precious *Bonte Bok* than in all other Musea taken together, namely six original specimens: an adult male shot by Mr. Smuts at Swellendam, two adult males and two ditto females collected at Uitenhage by Dr. von Horstock between 1828 and 1833, besides a young male, too from the Cape Colony.

Damaliscus albifrons (Burchell).

The *Blesbok* although perhaps not yet quite extinct in a wild state, it will be so within a few years: it seems that all herds now are preserved in large fenced enclosures in the Steynsburg division of the Cape Colony, in Bechuanaland, in the Oranje Vrijstaat and Transvaal. In our Museum is a fine mounted adult male, very likely from the same origin as our specimens of *Bonte Bok*.

Connochaetes gnu (Zimmerman).

In our Museum there are a mounted adult pair of the *Zwart Wildebeest*, from the Cape Colony, very likely from Dr. von Horstock's collections. The species seems to be extinct in a wild state, although it is possible that a few individuals may still be found in the Kalahari and Gordonia and also in German South-west Africa. Some spe-

cimens still remain upon one or two farms in the north of the Cape Colony in Victoria West.

Cephalophus silvicultor (Afzelius).

See my paper on this subject in the Notes from the Leyden Museum, Vol. XXII, p.p. 179—187. Perhaps there are two new species allied to *silvicultor*, viz. *Thomasi* and *Sclateri*, cf. p. 187.

Cephalophus leucochilus, n. sp.

In February of 1899 died in the Rotterdam Zoological Garden an adult female-Antelope, strongly resembling Gray's *Cephalophus breviceps*, figured and described in P. Z. S. L. 1866, p. 202, pl. XX. The latter animal was from an unknown locality, Gray wrote »West-Africa?". Our specimen is from the Loango-coast.

Dr. Sclater later on (P. Z. S. L. 1869, p. 594) however learned us that Gray's animal was a young individual and that it about a year afterwards became darker colored, sothat it was evident that the supposed new species was nothing more than the young of *Cephalophus dorsalis*. In the Book of Antelopes we consequently find *C. breviceps* registered under the heading *dorsalis*. Our Rotterdam-specimen, now stuffed in our Museum, being a *very adult* one, as the molars show, cannot belong to *C. breviceps* — being a *young dorsalis* — and being quite distinct in size and distribution of colors from all other described allied Antelopes, I am obliged to conclude that it is a new name that it wants: so I will describe it in a few lines as

Cephalophus leucochilus.

It is a much stronger and larger animal than *dorsalis*, and generally darker colored than that species; moreover I exhibit the following differences: upperlips rather high up towards the back of the nose pure white, of the same color is the whole underjaw and the chin, and also a large spot above

each eye ending towards the back of nose in a fine small line of a pure white like the mentioned spot.

The following measurements I took of the new species:

from upperlip till base of tail. .	101	cm.
ear.	6	»
skull: basal length	16.5	»
greatest breadth	8.7	»
orbit to muzzle	9	»
length upper molar series.	5.2	»
» lower » » .	6.3	»

Comparing these measurements with those of a large adult ♂ skull of *dorsalis* it grows evident how larger in all dimensions our new species is. I can give the following figures of skull *b* (Catalogue ostéologique des Mammifères du Muséum d'Histoire naturelle des Pays-Bas) of one of our *dorsalis* specimens:

basal length.	15.5	cm.
greatest breadth	8.5	»
orbit to muzzle	8.7	»
length upper molar series .	5.1	»
» lower » » .	5.7	»

Cephalophus leucoprosopus (Matschie).

The other day the Museum received from the Rotterdam Zoological Garden an Antelope, resembling specimens headed in my Catalogue as *Grimmia ocularis* Peters, *b* and *c*, in 1888 and 1890 received from the Zoological Garden at the Hague. I now see that the named specimens agree more with *C. leucoprosopus* Matschie, although *ocularis* is their nearest ally. As one of Peters' typical specimens is in our Museum, I compare now Matschie's species with Peters' ditto. Peters' species is from Mossambique, Matschie's from Angola; the Hague-specimens certainly are from Western Africa and the Rotterdam-specimen from the Lower-Congo.

In both species the distribution of the colors is the

same, but in *leucoprosopus* they are more vividly pronounced, so the in *ocularis* dominating color is a brownish yellow (bräunlich gelb *Peters*), in *leucoprosopus* however a reddish brown; the brown red on the head in *ocularis* is much darker in the other species; the black brown of tail, legs and head of the former is of a much intenser sooty black in *leucoprosopus*. Although the individuals are apparently of about the same size the ears in *ocularis* (12 cm.) are much larger than the same parts in *leucoprosopus* (10.5 cm.).

Measurements of the skull of an adult female-specimen of *leucoprosopus*:

length of orbit to muzzle	15 cm.
» » nasal bones	5 »
» „ upper molar series	5.5 »
» » lower » »	5.9 »
distance between molars and incisors	3.9 »
» » » » intermaxillaries. .	5.1 »
greatest breadth of skull	7.4 »

Both species are quite different from the *Common Duiker*. I never saw a specimen of *altifrons* Peters, however judging on what Peters said in his well known book on Mossambique and having no good reason to not accept the correctness of Peters' figures of animal and skull, I think it not-correct to head that species together with *ocularis* too under the *Common Duiker*, until the non-validity of both species has been demonstrated with the aid of a good series of animals and skulls.

Oreotragus saltatrixoides (Temminck).

Temminck has given a list of the species of Antelope, known by him at the year he wrote his book, Esquisses zoologiques sur la côte de Guinée, 1853. In a note on p. 191 he declared that his *Antilope saltatrixoides* from Abyssinia »diffère autant et plus de l'espèce du Cap Sud (*saltatrix*), que *Bubalis pygarga* diffère du *Bubalis albifrons*."

It seems that no naturalist paid attention to Temminck's short observation, so that the Abyssinian and Cape *Klipspringers* have always been taken together as one and the same species. In Sclater's book of Antelopes even we are assured (T. II, p. 7): »of geographical variation we (Sclater and Thomas) have as yet failed to find any evidence."

In my opinion however there are really differences between the two species, and as Temminck never described his Abyssinian new species I describe it here under the name given by him as

Oreotragus saltatrixoides (Temminck).

This Abyssinian species is smaller in all its dimensions than the longer known Cape-species *Oreotragus oreotragus* (this name has the priority of date over *saltatrix*) as will be evident by the following measurements (in cm.) taken from our old skulls:

	saltatrixoides		*oreotragus*	
	♂	♀	♂	♀
nasalia	3.8		4.5	4.3
greatest breadth	8	7.8	8.9	8.7
under jaw	10.1	11	11	11.6
upper molar series	4.9	5.2	5.1	5.5
lower molar series	5	5.9	5.4	6

We see that the difference is not a small one, so that even the skull of the adult female-*oreotragus* is much stouter in all its dimensions than the skull of the adult male of *saltatrixoides!*

As to the color the following short remark may be decisive. The hairs of the Cape-specimens as well as those of the Abyssinian ones are tipped with a peculiar greenish yellow color: a closer inspection now shows that the Abyssinian specimens have constantly the hairs with a *much broader* greenish yellow tip, so that the whole animal makes the impression of being much more vividly colored than *Oreotragus oreotragus.* I should say that in *saltatrixoides* the hairs are longer than in the other species,

the hairs of the *oreotragus* however are somewhat softer to the touch than those of the Abyssinian species.

Pediotragus tragulus (Forster).

See my paper in the Notes from the Leyden Museum, Vol. XXII, p. 38.

Pediotragus Horstockii Jentink.

See my paper in the Notes from the Leyden Museum, Vol. XXII, p. 39.

Pediotragus rufescens (H. Smith).

Cf. my observations in the Notes from the Leyden Museum, Vol. XXII, p. 40.

Pediotragus Kelleni Jentink.

See my paper on this species in the Notes from the Leyden Museum, Vol. XXII, p. 41.

Kobus Penricei Rothschild.

In the Notes from the Leyden Museum, Vol. IX, p. 172, I registered under the collections made by Mr. P. J. v. d. Kellen on his expedition to the Cunene-river a skull with horns of an adult male as *Kobus ellipsiprymnus*; this was in 1887. As our *Kobus*-material was rather poor, I thought it better to describe this skull not as the type of a new species, although the locality was a quite new one. I at present judge that it once belonged to a specimen of *K. Penricei* Rothschild, described in 1895 by this Author in the Novitates zoologicae, Vol. II, p. 52. Hitherto the skull never has been described, so that it may be of some interest to point out now a few peculiarities of it. Of our skull the lower jaws are wanting.

Horns very strong, rings very prominent; the extremities bent forwards and inwards so that the horns describe

an open oval, more pronounced than in the allied species, as it seems to me.

length of horn along the curve.	56 cm.
circumference at base	19 »
distance of extremities	18 »
greatest distance in the middle	30 »

Nasal bones not coming together in a point but ending concavously on the forehead; praemaxillaries not reaching the nasal bones.

length of skull.	26.5 cm.
» » upper molar series	8.8 »
» » nasal bones	10.75 »

Mr. van der Kellen labeled the skull as that of a *Litzieja* (indigenous name) or *Meerbok*. According to Mr. Rothschild the Boers call the animal *Kringhart* (written *kring-hart* by the authors of the Book of Antelopes). Now *kringhart* is a nonsense word, as *kring* = *circle* or *ring* and *hart* means *heart*. Mr. Rothschild however adds »*kringhart*, the same name the Boers give to the Waterbuck in the Transval". Now it is well known by Dutchmen that the Waterbuck (*Kobus ellipsiprymnus*) is called by the Boers not *kringhart* or *kringaat* (this is quite nonsense too as »*aat*" has no meaning at all) as in the Book of Antelopes, but *kringgat*, because it has a *kring* = *circle* or *ring* round its *gat* = *anus*. As we know *Kobus Penricei* has no »kring round its anus", v. d. Kellen's name *Meerbok* therefore is more correct, so that the species in future ought to be called so; the common Waterbuck, *K. ellipsiprymnus*, moreover is the only species having *a white rumpband*, or the true *kringgat*.

The genus should be written *Kobus* and not *Cobus*, the former bearing priority.

Although Rothschild's single type-specimen (♂) has been figured in the »Novitates zoologicae" by Keulemans and in the »Book of Antelopes" by Smit there is a striking difference in the two heads, namely in the latter figure the white stripe runs *over the eye*, meanwhile in Rothschild's

figure the white stripe passes *over the eye to the base of horns*. The two authors describe it according these figures. Indeed a puzzle!

In my opinion no plate at all is much better than two plates which do not agree although prepared from one and the same specimen!

Kobus ellipsiprymnus (Ogilby).

Mr. W. L. Sclater (the Fauna of South-Africa, Mammals, 1900, Vol. I, p. 187) says that the *Waterbuck* »is not found within the limits of the Cape Colony proper, but from the Limpopo River northwards it becomes fairly abundant", a. s. o. In our Museum are of this species: two adult males and one ditto female, besides two nearly fullgrown specimens, male and female; they have been collected more than half a century ago by the well-known Mr. Wahlberg, who collected in the Cape Colony and Natal. These specimens therefore are from a much more southern place of origin than the specimens in the British and in the South-African Museums, as the British Museum contains a mounted pair from Mashonaland, meanwhile in the South-African Museum there is a fine mounted pair, obtained the male in Bechuanaland, the female in Mashonaland; these four specimens have been collected by Mr. Selous.

Antidorcas euchore (Zimmerman).

Mr. W. L. Sclater, the Director of the South-African Museum, Cape Town, assures in »the Mammals of South-Africa", p. 211, that over a considerable part of its range, especially in the more settled parts of the Colony, of the Free State and of the Transvaal, *Antidorcas euchore* only now exists within the fences of large farms, and can hardly be said to be any longer truly feral and that this species is not and never has been found in the Cape, Stellenbosch and other south-western and southern districts.

It seems indeed that no Museum has specimens from

the Cape Colony: it is therefore of no little interest to state that there are in the Leyden Museum four specimens from the Cape, among them an adult and a nearly adult female collected by Dr. von Horstock: as the latter collected in Uitenhagen, Caledon and Steenbergen we may be sure that our specimens once lived in the Cape Colony, perhaps the latest survivers from there.

Although it seems that albinos are not frequently met amongst the Antelopes, it may be mentioned that *euchore* makes exception as there are of this species three instances known: 1°. a specimen in the Paris Museum, described in 1827 by Mr. Hamilton Smith in his »treatise on the order Ruminantia", 2°. the specimen mentioned in the »Johannesburg Times" of January 22nd, 1897 and caught in the Orange Freestate, at that time exhibited in Johannesburg by Messrs. Colquhoun and Hill of Jeppe street (cf. the Book of Antelopes, III, p. 62); it is unknown where this specimen is at present, and 3°. a specimen in the Leyden Museum, collected by Dr. von Horstock, mentioned in my Catalogue of the year 1892 as »femelle passablement adulte montée, au teint du pelage très pâle".

In the Leyden Museum there is a female-specimen from the von Horstock's collections with abnormal horns: they measure along the curves 10.3 cm., are straight for their greatest length and only towards the tip curved or hooked backwards like the Chamois' horns; of rings there is about no trace to be seen (cf. my Catalogue, p. 169).

Gazella leptoceros (Cuvier) and *Gazella Loderi* Thomas.

In the »book of Antelopes" (T. III, p. 147) the authors stated: »the identity of the Egyptian *Gazella leptoceros* with the Algerian *G. Loderi* is perhaps not yet exactly certain, although we have combined the English name of the latter with the scientific name of the former. On comparing specimens from Tunis and Algeria with others from

Egypt, the size of the former is slightly greater, the markings are even less defined than in Egyptian examples, the horns are less closely ringed, the nasal bones are markedly longer, the nasal opening is both longer and broader, and the premaxillae articulate less broadly with the sides of the nasal bones. The differences seem to be quite constant, so far as we have materials for comparison, and we therefore think that as the Algerian form has had a name given to it, it may be provisionally retained as a subspecies at least until these characters are shown to be variable."

Based upon our material [1]) I can add the following differences between *leptoceros* and *Loderi* to those enumerated by the authors of »the Book of Antelopes".

	leptoceros.	*Loderi.*
general color:	darker.	lighter.
tail:	shorter.	longer.
ear:	larger.	smaller.
knee-brushes:	well developed.	less developed.
hoofs:	short.	elongated.
horncore:	much curved.	feebly curved.
hornrings:	less than 20.	more than 20.
nasal bones:	shorter.	longer.
molar series:	56 mm.	59 mm.

In conclusion we have reason enough to regard upon *leptoceros* and *Loderi* as two well defined and well distinct species.

Taurotragus oryx (Pallas).

Although the specific title *oryx* for the *Eland* instead of *oreas* may be very entangling to non-systematic zoologists and notwithstanding Pallas explained (Spicilegia zoologica, fasc. XII, pp. 10 and 11) why he changed the by himself formerly given name *oryx* in *oreas*, I think it

1) We have of *Loderi* a fine series of individuals, adult and young ones, with bony parts, collected by Mr. Paul Spatz in Tunisia. Our *leptoceros* has been purchased from Mr. Frank and is said to be from Somali-land.

wise to follow the authors of the book of Antelopes in calling the Eland by its eldest name *oryx* according to the rules of priority.

In South-Africa the *Eland* is at present one of the rarest

Taurotragus oryx (Pallas).

animals, in the Cape Colony it is practically extinct. I hardly believe that there exists in any Museum, besides in the Leyden Museum, a skin from the latter country. In our Museum are two stuffed specimens, an adult male and a female, besides the skin of a young male: they belong to the collections brought together for that Museum by the zealous Dr. von Horstock; therefore we know exactly that the mentioned specimens have been shot in the southern parts of the Cape Colony.

The female has the horns »anormales et courbées" (see my Catalogue systématique, Tome XI, p. 172).

Now abnormal horns of the female Eland have been twice recorded, namely by Dr. Günther in 1889 and by Dr. Sclater in 1896: upon these horns has been based a

species, *Antilope triangularis*, by Dr. Günther and a genus, *Doratoceros*, by Dr. Lydekker. The name *triangularis* reminds their triangular form in transverse section.

As I said before our female Eland has abnormal horns: they present in transverse section about the same figure as Dr. Günther's *triangularis*; they however are much more curved, as our figure shows; Dr. Günther's specimen was larger than Dr. Sclater's, it measures 31 inches (77.5 cm.) along the curve. Our horns are still larger, measuring along the curve full 86 cm.

A closer inspection of the horns under consideration learns however that they are not genuine, but very artistically carved from wood. We may however accept that Dr. von Horstock, a scientific man and excellent zoologist, can not have ordered to carve from wood a non-existent monster, at the same time nobody would have been in Leyden so foolish as to adorn an eventually hornless animal with wooden horns of a shape never seen before, so that we must admit that our abnormal horns have been carefully copied from the original and that without doubt the original horns have been retained by the owner in the Cape Colony as curiosities.